



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,306	04/28/2004	Han-Chung Lai	12952-US-PA	3305
31561	7590	08/05/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			CHIEN, LUCY P	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.	Applicant(s)	
	10/709,306	LAI, HAN-CHUNG	
	Examiner	Art Unit	
	Lucy P. Chien	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1,2,12,13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission in view of Song et al (US 6215541).

Regarding Claim 1,

The admission (Figure 1) discloses a scan line (110) disposed over a substrate 10), a redundant scan line (120) disposed over the scan line (110), a dielectric layer (130), disposed between the scan line (110) and the redundant scan line (120), wherein contact holes (132) are formed in the dielectric layer (130) through which the scan line (110) is electrically connected with the redundant scan line (120), a data line (40) disposed over the substrate (10), an active component (160) disposed adjacent to an intersection of the scan line (110) and the data line (140) and a pixel electrode (170) electrically connected to the active component (160) where the active component is controlled by the scan line (110) to write an image signal transmitted by the data line (140) to the pixel electrode (170).

Admission does not disclose three first contact holes.

Song et al disclose (Figure 5) three contact holes (74, and the other contact holes next to 74) located to connect the scan line (24) and redundant scan line (84).

Art Unit: 2871

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission's pixel structure to include Song et al's three contact holes motivated by the desire to increase the reliability of the contacts between pads and drivers. (Song et al, Column 1, Row 47-48)

Regarding Claim 2,12,

The admission discloses (Figure 1) a redundant data line, disposed under the data line, wherein the dielectric layer is disposed between the data line and the redundant data line, and the dielectric layer has contact holes through which the data line is electrically connected with the redundant data line.

The admission does not disclose the three contact holes.

Song et al discloses three contact holes (75, and the contact holes next to 75) through which the data line (63) is electrically connected with the redundant data (83).

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission's pixel structure to include Song et al's three contact holes motivated by the desire to increase the reliability of the contacts between pads and drivers. (Song et al, Column 1, Row 47-48)

Regarding Claim 13,

In addition to the admission and Song et al as disclosed above, the admission further discloses (Figure 1) the active component (160) comprising a thin film transistor.

Claim 3-5,8-11,14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission and of Song et al (US 6215541) in view of Matsumoto et al (US 5969780).

Regarding Claim 3,9,14,

The Admission and Song et al do not disclose the contact hole having a size in a range of about 20 μm .

Matsumoto et al discloses (Column 5, Rows 35-38) the size of the contact hole equal to or more than 20 μm in order to achieve more positive electrical connection. Thus, the size of the contact hole has a size in a range of about 20 μm to about a length of the data line.

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission's pixel structure and Song et al's three contact holes to include Matsumoto et al's contact hole size motivated by the desire to achieve more positive electrical connection (Matsumoto et al, Column 5, Rows 35-38)

Regarding Claim 4,10,15,

In addition to the admission, Song et al, and Matsumoto et al as disclosed above, Matsumoto further discloses (Figure 6) the contact hole comprises a rectangular hole.

Regarding Claim 5,11,16,

In addition to the admission, Song et al, and Matsumoto et al as disclosed above, the admission further discloses (Figure 1, 160) the active component comprises a thin film transistor.

Regarding Claim 8,

As the admission disclosed above, the admission and Matsumoto et al do not disclose the three contact holes.

Song et al discloses three contact holes (75, and the contact holes next to 75) through which the data line (63) is electrically connected with the redundant data (83).

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission's pixel structure to include Song et al's three contact holes motivated by the desire to increase the reliability of the contacts between pads and drivers. (Song et al, Column 1, Row 47-48)

Claim 6,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission in view of Matsumoto et al (US 5969780).

Regarding Claim 6,

The admission (Figure 1) discloses a scan line (110) disposed over a substrate (10), a redundant scan line (120) disposed over the scan line (110), a dielectric layer (130), disposed between the scan line (110) and the redundant scan line (120), wherein contact holes (132) are formed in the dielectric layer (130) through which the scan line (110) is electrically connected with the redundant scan line (120), a data line (40) disposed over the substrate (10), an active component (160) disposed adjacent to an intersection of the scan line (110) and the data line (140) and a pixel electrode (170) electrically connected to the active component (160) where the active component is controlled by the scan line (110) to write an image signal transmitted by the data line (140) to the pixel electrode (170).

The admission does not disclose the contact hole having a size in a range of about 20 μm to about a length of the scan line.

Art Unit: 2871

Matsumoto et al discloses (Column 5, Rows 35-38) the size of the contact hole equal to or more than 20 μm in order to achieve more positive electrical connection. Thus, the size of the contact hole has a size in a range of about 20 μm to about a length of the data line or scan line.

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission's pixel structure to include Matsumoto et al's contact hole size motivated by the desire to achieve more positive electrical connection (Matsumoto et al, Column 5, Rows 35-38).

Regarding Claim 7,

In addition to the admission and Matsumoto et al as disclosed above, Matsumoto further discloses (Figure 6) the contact hole comprises a rectangular hole.

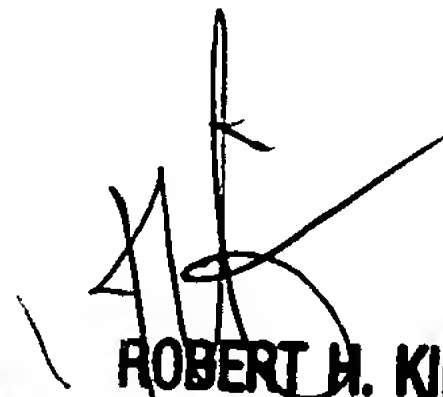
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucy Chien
Examiner
Art Unit 2871
LC


ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800